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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,448	04/02/2001	Richard D. Cramer	3017-40	1816

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EXAMINER

DOUGHERTY, ANTHONY T

ART UNIT PAPER NUMBER

2863

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/825,448

Applicant(s)

CRAMER ET AL.

Examiner

Anthony T. Dougherty

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 rejected under 35 U.S.C. 102(e) as being anticipated by anticipated by U.S.

Patent No. 6,240,374 to Cramer et al.

The applied reference has a common inventor/assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

With respect to claim 1, Cramer et al. discloses searching a database of molecule fragments by defining fragments of a query molecule according to a defined set of rules (see column 73 line 66 through column 74 line 1), defining fragments of a database molecule according to a defined set of rules (see column 60 line 10 through line 20), topomerically aligning the query and database molecule fragments to generate a topomeric conformation (see column 74 line 2 through line 6), generating the interaction energies between a probe and the atoms in the topomerically aligned fragments of query and database molecules at all intersection points in a three dimensional grid surrounding the fragments (see column 24 line 48 through line

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63) generating shape descriptors of query and database molecules (see column 74 line 44 through line 48), searching a virtual library of product molecules derivable from combinatorial reactions without the database containing actual constructions of the product molecules (see column 10 line 45 through line 50), comparing selected fragments from the database with the query fragments and determining similarity by root sum square to identify an output of combinations of structural variations of database molecules that yield a product molecule most similar to the query molecule (see column 74 line 8 through line 17).

3. Claim 2 allowed.

4. The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claim 2 is the inclusion of the method steps being searching a heterogenous compound database for molecules which are likely to have the same biological activity as a known query molecule by fragmenting a database compound according to a defined set of rules, and identifying the molecule in the database most similar to the query molecule as that molecule having the smallest field value difference in its fragments. It is these steps found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

Response to Arguments

5. Applicant's arguments, see page 12 last paragraph, filed 1/31/03, with respect to claim 2 have been fully considered and are persuasive. The rejection of claim 2 has been withdrawn.

6. Applicant's arguments filed 1/31/03 regarding claim 1 have been fully considered but they are not persuasive. The database for molecules as taught by U.S. Patent No. 6,240,374 to Cramer et al. is a heterogenous compound database by the ordinary meaning of the words heterogenous compound database, the examiner acknowledges that the applicant intends for a heterogenous compound database as described in the preamble of claim 1 to be one of actually existing molecules such as those available commercially, however without an explicit definition of the term "heterogenous compound database" within the specification the examiner is obligated to consider this term by its ordinary meaning, it is the opinion of the examiner that the database described in U.S. Patent No. 6,240,374 to Cramer et al. is one of compounds (see column 61 line 3 through column 61 line line 37), and is heterogenous (see column 58 line 25 through line 27) and is thus a heterogenous compound database as understood from the ordinary meaning of these words and as one of ordinary skill in the art would understand their scope when used in conjunction.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,418,944 to DiPace et al. because it teaches defining fragments of a query molecule (see Fig. 3 and column 3 line 58 through column 4 line 13) and a database molecule (see column 6 line through line 5) according to a defined set of rules (see column 3 line 41 through line 57), and identifying the database molecule similar to the query molecule (see

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column 6 line 8 through line 11). However, DiPace et al. does not teach generating shape descriptors for the query molecule or database molecule or using the shape descriptor to identify the database molecule that has a shape similar to the query molecule.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony T. Dougherty whose telephone number is (703) 305-4020. The examiner can normally be reached on Monday through Friday from 8 to 5.

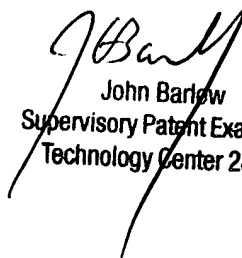
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on (703) 308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



atd

April 4, 2003


John Barlow
Supervisory Patent Examiner
Technology Center 2800